UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
ENVIRONMENTAL
CLEANUP

March 5, 2018

Mr. Marc Connally
92 CES/CEVR
100 West Ent Street, Suite 155
Fairchild AFB, Washington 99011

Re: Review of Action Memorandum for a Time-Critical Removal Action of PFOS- and PFOA-Contaminated Water in Municipal Well at City of Airway Heights Near Fairchild Air Force Base, Washington, February 2018

Dear Mr. Connally:

Thank you for the opportunity to review the above referenced Action Memorandum for a Time-Critical Removal Action (TCRA) Treatment of PFOS- and PFOA-Contaminated Water in Municipal Well at Airway Heights, Washington by Fairchild Air Force Base, Washington, dated February 2018 (Action Memorandum). The Action Memorandum indicates that perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were present above the health advisory (HA) in two municipal well locations [Airway Heights #9 (Well 9) and Airway Heights Well P-1/4 (Well 1/4), two wells with combined flow at the wellhead]. The TCRA authorizes installation of a media treatment system, either granular activated carbon (GAC) or resin change-out system at one of the municipal wellheads (Well 9). This Action Memorandum appears adequate for the TCRA and is consistent with our Superfund Removal Guidance for preparing Action Memorandum (September 2009). We have provided a few comments below that would improve the clarity of the document:

1) This Action Memorandum only addresses Well 9. As such, it is unclear what action, if any, is being taken at Well 1/4 or if the municipal well will remain offline until the long-term remedial action is implemented. Please revise the Action Memorandum to clarify what action, if any, is being taken at Well 1/4 or if the municipal well will remain offline until the long-term remedial action is implemented.

2) The Action Memorandum states that, "The estimated cost for providing the temporary treatment system remediating water from Well 9 for summer peak demand, including design, installation, operation and maintenance for the life of the selected system, and associated reporting are estimated to be $2,630,000." While the referenced text indicates that the cost is for the life of the selected system (i.e., three years), the cover letter indicates that this Action Memorandum details a cost estimate based upon one year (Summer 2018 peak water demand season) of Air Force funded operation and maintenance. Therefore, it is unclear if the $2,630,000 represents the cost for the life of the media treatment system or just the capital costs and operation and maintenance costs for one year. Please revise the Action Memorandum to clarify if the $2,630,000 represents the cost for the life of the media treatment system or just the capital costs and operation and maintenance costs for one year.

3) Section V - The Action Memorandum discusses the need for operations and maintenance (O&M) for the life of the treatment system. The following information is lacking with respect to the O&M of the treatment system:
    a. It is not clear how frequently performance monitoring will be conducted during the expected operation from June through October for the next three years.
    b. A list of poly- and perfluoroalkyl Substances (PFASs) that will be analyzed and reported by the laboratory for use in evaluating system performance is not provided and it is not clear how the reported laboratory results will be used to evaluate the need for GAC and/or resin change-out. It should be noted that the June 6, 2017 Environmental Science & Technology publication Sorption of PFASs Relevant to Aqueous Film-Forming Foam (AFFF)-Impacted Groundwater by Biochars

and Activated Carbon recommends breakthrough monitoring for shorter-chain PFASs in addition to PFOS/PFOA to ensure greater protection from potential exposure to PFASs. This is due to observations that many shorter-chain polyfluorinated compounds (PFCs) were predicted to breakthrough GAC sorption systems before PFOA and PFOS by thousands of bed volumes. Thus, it appears that evaluation of shorter-chain PFC concentration trends over time, along with monitoring of PFOS and PFOA concentrations, may be appropriate for performance monitoring and for determining whether GAC change-out is warranted.

c. Information regarding carbon and/or resin usage for the media treatment system is not provided or referenced.

Please provide EPA with a copy of the O&M Plan which addresses the following: the frequency of performance sampling during the expected operation from June through October for the next three years; a list of PFASs that will be laboratory-analyzed and reported as part of performance monitoring and describe how the reported results will be used to determine GAC and/or resin change-out needs; and, additional information or references used to estimate carbon and/or resin usage for the media treatment system. Additional information or references used to estimate carbon and/or resin usage should include calculations or data from similar sites where treatment systems have been installed to treat PFASs and carbon and/or resin usage has been previously established through O&M monitoring.

If you have any questions or concerns about these comments, please do not hesitate to contact me at prestbo.kim@epa.gov or 206-553-0239.

Sincerely,

KIMBERLY PRESTBO
Digitally signed by KIMBERLY PRESTBO
Date: 2018.03.05 11:57:27 -08'00'

Kimberly M. Prestbo
Remedial Project Manager
Site Cleanup Unit #1
Remedial Cleanup Program

cc: Kurt Lee, AFCEC
Hun Seak Park
Washington Department of Ecology